

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028611**Date Inspected:** 17-Oct-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job site**CWI Name:** As Mentioned Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

Quality Assurance Inspector (QAI) Rodney Patterson was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

The QAI noted and periodically observed ABF/JV welder Eric Sparks #3040 performing Carbon Arc Gouging (CAG) for the repair of the deck drop-in longitudinal splice designated as 13E-E2.1 from Face B. The QAI was present during the gouging process and observed porosity in the weld at a depth of approximately 4mm. The ABF/JV QC inspector Salvador Merino was observed performing magnetic particle testing (MT) in way of the completed repair excavation at the following locations,

13E-E2.1 (Face B)

Y=3190, Depth 8, Width 18mm, Length 60mm

The ABF welder Wai Kit Lai was observed later in the shift performing Shielded Metal Arc Welding (SMAW) in the 4G position utilizing the Caltrans approved Welding Procedure Specifications ABF-WPS-D1.5-1000-Repair. The weld and surrounding area was brought to a temperature of 325°F by the use of induction heaters and maintained throughout the welding process. The repairs were then observed to be post heated at 450°F for one hour as required by the applicable repair document. The repair was performed in accordance with the approval for repair document RWR201209-138.

The QAI observed at random intervals ABF/JV welder Rick Clayborn performing Carbon Arc Gouging (CAG)

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for the repair of the floor beam web splice at panel point 121 at E2. The ABF/JV QC inspector Chris Conche was observed performing magnetic particle testing (MT) in way of the completed repair excavation at the following locations,

13E-PP121-E2.0-FBW1

Y=130, Depth 7, Width 30mm, Length 60mm

Y=250, Depth 9, Width 20mm, Length 110mm

Y=360, Depth 8, Width 20mm, Length 80mm

13E-PP121-E2.0-FBW2

Y=1105, Depth 8, Width 20mm, Length 80mm

The ABF welder Rick Clayborn #2773 was observed later in the shift performing Shielded Metal Arc Welding (SMAW) in the 2G/3G position utilizing the Caltrans approved Welding Procedure Specifications ABF-WPS-D1.5-1000-Repair at the above mentioned location. The weld and surrounding area was brought to temperature by the use of a gas torch and maintained throughout the welding process. The repairs were performed in accordance with the following approval for repair documents however; an error in the listed Welding Procedure Specification was noted in the repair document prior to repair, and a change to the applicable welding procedure was made in the field to suit. The QA Task leader was verbally notified of the change for further discussion with the Caltrans Structural Materials Representative (SMR) and ABF Management.

Y=130 RWR201209-121

Y=250 RWR201209-122

Y=360 RWR201209-123

Y=1105 RWR201209-120

### Ultrasonic Testing OBG

This QA performed verification Ultrasonic Testing (UT) on Complete Joint Penetration (CJP) Deck Drop-in and corner Drop-in related welds for lift 12E/13E. The welds were previously tested and accepted by QC Ultrasonic technicians in accordance with AWS D1.5-2002, section 6, table 6.3. The QAI's findings are as follows;

12E Corner Drop-in Web Splice (Weld No. 12E-PP113.5-E2.1-BW1)

The QAI performed a minimum of 10% verification of this weld from Y=0~200. No rejectable indications were observed at the time of inspection.

12E Corner Drop-in Web Splice (Weld No. 12E-PP113.5-E2.1-BW2)

The QAI performed a minimum of 10% verification of this weld from Y=0~500. No rejectable indications were observed at the time of inspection.

12E Corner Drop-in Web Splice (Weld No. 12E-PP113.5-E2.1-BW3)

The QAI performed 100% verification of this weld. No rejectable indications were observed at the time of inspection.

12E Corner Drop-in stiffener Splice (Weld No. 12E-PP113.5-E2.1-PS1)

The QAI performed 100% verification of this weld. No rejectable indications were observed at the time of

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inspection.

12E Corner Drop-in Web Splice (Weld No. 12E-PP113.5-E2.1-PS2)

The QAI performed 100% verification of this weld. A total of one (1) rejectable indication was observed at the time of inspection at Y=60. The rejectable indication was confirmed by ABF QC Jesse Cayabyab during the shift..

12E Corner Drop-in Web Splice (Weld No. 12E-PP113.5-E2.1-PS2)

The QAI performed 100% verification of this weld. A total of one (1) rejectable indication was observed at the time of inspection at Y=0. The rejectable indication was confirmed by ABF QC Jesse Cayabyab during the shift.

13E Deck Drop-in Splice (Weld No. 13E-PP120.6)

The QAI performed verification in way of repair locations rejected by QA during the verification of recordable indications at Y=850. No rejectable indications were observed at the time of inspection.

The QAI noted and periodically observed ABF/JV welder Wai Kit Lai performing Carbon Arc Gouging (CAG) for the repair of the floor beam web splice at panel point 120 at E2. The ABF/JV QC inspector Chris Conche was observed performing magnetic particle testing (MT) in way of the completed repair excavation at the following locations,

13E-PP120-E2.0-FBW1

Y=130, Depth 19, Width 40mm, Length 120mm

The ABF welder Wai Kit Lai was observed later in the shift performing Shielded Metal Arc Welding (SMAW) in the 2G position utilizing the Caltrans approved Welding Procedure Specifications ABF-WPS-D1.5-1004-Repair. The weld and surrounding area was brought to a temperature of 325°F by the use of induction heaters and maintained throughout the welding process. The repairs were then observed to be post heated at 450°F for one hour as required by the applicable repair document. The repair was performed in accordance with the approval for repair document RWR201209-117.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### **Summary of Conversations:**

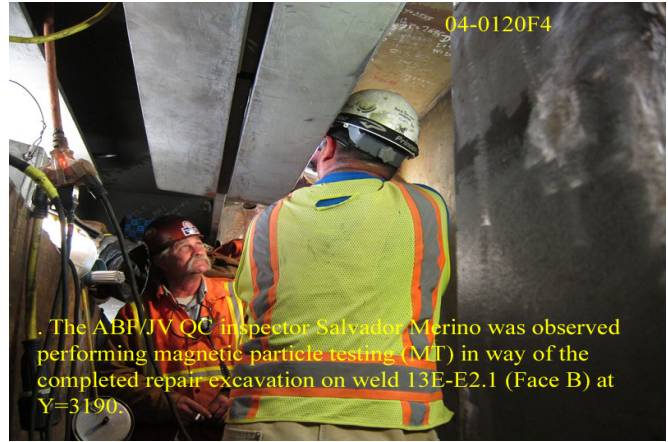
Conversations relevant to the work being performed.

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### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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**Inspected By:** Patterson,Rodney

Quality Assurance Inspector

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**Reviewed By:** Reyes,Danny

QA Reviewer